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09/930,827	08/15/2001	Dominik J. Schmidt		1388

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EXAMINER

GREY, CHRISTOPHER P

ART UNIT PAPER NUMBER

2667

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/930,827

☒ Applicant(s)

SCHMIDT, DOMINIK J.

Examiner

Christopher P Grey

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because:

(a) Figs 1-3 are handwritten

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

(a) Page 7 of the specification discloses a process 10 that is not shown in any of the drawings.

(b) Page 9 discloses channels 50 and 52 that are not shown in any of the figures.

(c) Page 10 line 15- Page 11 line 3 discloses a process and a number of steps not shown in any of the drawings.

(d) Page 18 discloses a process 210 not shown within the respective figure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chikkaswanny et al. (US 5625889) in view of Gustafsson et al (US 6597672)

Claim 1 Chikkaswanny et al. (Chikkaswanny 'hereinafter') discloses an RF signal detection circuit that detects available frequency channels (Col 1 line 64- Col 2 line 7) and an RF sniffer module (Col 2 lines 35-49).

Chikkaswanny also discloses utilizing idle (available) channels based on the detection that they are available (Col 1 lines 32-39).

Chikkaswanny discloses communication from a subscriber unit to a base station (Col 2 lines 8-35). However Chikkaswanny does not specifically disclose requesting an allocation of preferably adjacent cellular frequency channels from a mobile station to a base station.

Gustafsson et al. (Gustafsson 'hereinafter') discloses allocating adjacent channels in response to a request for a connection (Col 5 lines 23-37). Gustafsson also discloses the BSC performing allocation of radio channels (Col 4 lines 60-64).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the sniffer detection circuit as disclosed by Chikkaswanny, with the

function of requesting adjacent channels as disclosed by Gustafsson. The motivation for this combination is to optimize the utilization of the capacity within the network (Col 2 lines 43-54).

Claim 2 Chikkaswanny discloses communicating over a voice channel (Col 2 lines 36-49), where it would have been obvious to one of the ordinary skill in the art at the time of the invention that a voice channel may be interpreted as a short range radio channel.

Claim 4 Chikkaswanny discloses detecting the presence of radio signals occurring in a channel, indicating whether the channel is available or active (Col 1 line 64- Col 2 line 7).

Claim 5 Chikkaswanny discloses a signal strength circuit for determining if a cellular channel becomes unavailable (Col 3 lines 22-42). However Chikkaswanny does not specifically disclose substituting the cellular channel with the short-range channel if the cellular channel becomes unavailable.

Gustafsson discloses moving (substituting) a connection when the signal on a channel is below a certain threshold, where it would have been obvious to one of the ordinary skill in the art at the time of the invention that a connection may be long range or short range. It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the RF sniffer disclosed by Chikkaswanny with the function of moving/changing a connection in the event of breaching a threshold. The motivation for this combination is to maintain a signal above a certain threshold.

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Claim 6 Chikkaswanny discloses a signal strength circuit for determining if a cellular channel becomes unavailable (Col 3 lines 22-42). However Chikkanswanny does not disclose substituting the short-range channel with the cellular channel if the short-range channel becomes unavailable.

Gustafsson discloses moving (substituting) a connection when the signal on a channel is below a certain threshold, where it would have been obvious to one of the ordinary skill in the art at the time of the invention that a connection may be long range or short range.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the RF sniffer disclosed by Chikkaswanny with the function of moving/changing a connection in the event of breaching a threshold. The motivation for this combination is to maintain a signal above a certain threshold.

Claim 7 Chikkaswanny discloses an RF sniffer module containing a voice signal detection circuit and diagnostic signal detection circuit (Col 2 lines 35-49) connected in parallel (see fig 4).

Claim 8 Chikkaswanny does not disclose sending a digital signal to a software controlled baseband circuit to select a wireless protocol. However Gustafsson discloses a BSC or equivalent unit (software baseband controller) that bases its operation from algorithms (such as that seen in Fig 6). Gustafsson also discloses the BSC or equivalent unit determining (selecting) what connections are to be moved and to what terminals.

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teachings of Chikkaswanny as previously discussed, with the functions of the BSC or equivalent unit as disclosed by Gustafsson. The motivation for this combination is to optimize the allocation of resources.

Claim 9 Chikkaswanny discloses detecting available channels. However Chikkaswanny does not disclose bonding the short-range channel with the cellular channel to increase bandwidth.

Gustafsson discloses after detecting idle channels, selecting preferably adjacent channels (Col 5 lines 23-37) for which there is an increase in bandwidth (Col 6 lines 30-35), where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the channels selected could be cellular or short range channels.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the function of detecting available channels as disclosed by Chikkaswanny with the functions of selecting (bonding) channels as disclosed by Gustafsson in order to increase the bandwidth.

Claim 10 Chikkaswanny discloses the RF sniffer being tested under a number of different conditions/parameters where there is a range of different frequencies (Col 5 lines 4-27).

It would have been obvious to one of the ordinary skill in the art at the time of the invention for the cellular channel to comprise an uplink band around 890-915 MHz and downlink band around 935-960 MHz, since discovering the optimum or workable ranges involves only routine skill in the art.

Claim 11 Chikkaswanny does not disclose bonding over two adjacent channels.

Gustafsson discloses after detecting idle channels, selecting preferably adjacent channels (Col 5 lines 23-37) for which there is an increase in bandwidth (Col 6 lines 30-35).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the function of detecting available channels as disclosed by Chikkaswanny with the functions of selecting (bonding) channels as disclosed by Gustafsson in order to increase the bandwidth.

Claim 12 Chikkaswanny does not disclose each band being divided into 124 pairs of frequency duplex channels with 200 kHz carrier spacing using Frequency Division Multiple Access.

Gustafsson discloses dividing each band into a number of frequency duplex channels (Col 4 lines 13-28).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to divide each band into 124 pairs of frequency duplex channels with 200 kHz carrier spacing using Frequency Division Multiple Access, since it would have been held that discovering an optimum value of a result effective variable only involves routine skill in the art.

Claim 13 Chikkaswanny discloses the RF sniffer being operable in a TDMA environment (Col 5 line 66- Col 6 line 3). However Chikaswanny does not disclose splitting the 200 kHz radio channel using time division multiple access, bonding the time slots and transmitting and receiving data in the bonded time slots.

Gustafsson discloses in a TDMA system splitting each carrier frequency into a number of time slots (Col 5 lines 6-13).

Gustafsson discloses making a multi frame (bonded time slots) consisting of a number of different time slots (Col 5 lines 6-13).

Gustafsson discloses channels carrying (transmitting and receiving) data (Col 5 lines 14-21).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the sniffer as disclosed by Chikkaswanny with the function of splitting a carrier frequency in a TDMA environment. The motivation for this combination is to achieve multislot connections having a desired bandwidth (Col 2 lines 42-44).

Claim 14 Chikkaswanny discloses the RF sniffer being operable in a TDMA environment (Col 5 line 66- Col 6 line 3). However Chikkaswanny does not disclose splitting the 200 kHz radio channel using time division multiple access.

Gustafsson discloses in a TDMA system splitting each carrier frequency into a number of time slots (Col 5 lines 6-13).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the sniffer as disclosed by Chikkaswanny with the function of splitting a carrier frequency in a TDMA environment. The motivation for this combination is to achieve multislot connections having a desired bandwidth (Col 2 lines 42-44).

Claim 15 Chikkaswanny discloses transmitting cellular packet data conforming to a cellular digital packet data protocol (Col 1 lines 5-22 and Col 1 line 64-Col 2 line 7).

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Claim 16 Chikkaswanny discloses an RF signal detection circuit (processing unit) that detects available frequency channels (Col 1 line 64- Col 2 line 7) and an RF sniffer module (Col 2 lines 35-49).

Chikkaswanny discloses transmitting a burst of cellular data over a frequency channel. Chikkaswanny does not specifically disclose a long range and short-range transceiver coupled to the processing unit for doing so.

Gustafsson discloses a BSC performing a number of functions including allocating radio frequency channels (Col 4 lines 60-67) and a control unit (processor) for selecting channels (Col 3 lines 30-34), where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the channels allocated could be long range or short range.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the detection means and sniffer module as disclosed by Chikkaswanny with the BSC and control unit disclosed by Gustafsson. The motivation for this combination is to optimize the utilization of the capacity within the network (Col 2 lines 43-54).

Claim 17 Chikkaswanny discloses a number of different processors (filters, amplifiers, mixers and D/A converters) that operate on a digital signal (see fig 4).

Claim 18 Chikkaswanny does not specifically disclose an RISC, however it would have been obvious to one of the ordinary skill in the art at the time of the invention to implement an RISC in a computer environment as disclosed by Chikkaswanny to increase the speed of processing.

Claim 19 Chikkaswanny discloses an MSC (router) coupled to several base stations within which the processors are contained (see Fig 1).

Claim 20 Chikkaswanny discloses detecting available channels. However Chikkaswanny does not disclose bonding the short-range channel with the cellular channel to increase bandwidth.

Gustafsson discloses after detecting idle channels, selecting preferably adjacent channels (Col 5 lines 23-37) for which there is an increase in bandwidth (Col 6 lines 30-35), where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the channels selected could be cellular or short range channels.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the function of detecting available channels as disclosed by Chikkaswanny with the functions of selecting (bonding) channels as disclosed by Gustaffson in order to increase the bandwidth.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chikkaswanny et al. (US 5625889) in view of Gustafsson et al. (US 6597672) in further view of Cannon et al. (US 6650871)

Claim 3 The combined teachings of Chikkaswanny and Gustafsson do not specifically teach the short range channel being Bluetooth or WLAN, however Cannon et al. (Cannon 'hereinafter') discloses communication between a cordless telephone and a base unit over a Pico network (Bluetooth) channel (Col 3 lines 19-31).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the combined inventions of Chikkaswanny and Gustafsson with the communication in a Bluetooth environment as disclosed by Cannon. The motivation for this modification is to supply a short-range radio link and support point-to-point communications (Col 1 lines 26-32).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) Hulsebosch (US 5805982) discloses a method of measuring idle channel quality while implementing a sniffer. Transmission on a channel is seized when there is a breach of the threshold requirement. Hulsebosch implements a processor, idle channel measurement unit and a channel allocator.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667

C. Grey
3/31/05

A. Qureshi 4/1/2005
AFSAR QURESHI
PRIMARY EXAMINER